REMARKS/ARGUMENTS

Status of the Claims

Claims 30-32 and 34-46 are pending in the present application. No claims are currently amended in this response. Claims 30-32 and 34-46 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-19 of U.S. Patent No. 6,329,146 B1. Claims 30-32 and 34-46 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,329,146 Bl.

Non-statutory double patenting

Claims 30-32 and 34-46 have been rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over U.S. Patent No. 6,329,146 B1 (Crooke et al.; "the '146 patent"). Applicants traverse the rejection.

Applicants' claimed invention is, in part, a method of selecting those members of a group of compounds that can form a non-covalent complex with a target molecule comprising, in part, mixing a standard compound with an excess amount of a target molecule, introducing the mixture into a mass spectrometer, and adjusting the operating performance conditions of said mass spectrometer such that the signal strength of said standard compound bound to said target molecule is from 1% to about 30% of signal strength of unbound target molecule.

The present claims are patentably distinct over the '146 patent. The Office alleges that the method in the '146 patent requires the selection of a mass spectrometer and collecting ion abundance data for a standard ligand-RNA complex as well as a mixture including the standard ligand-RNA complex plus compounds to form a combinatorial mixture. The Office refers to column 48 of the '146 patent to disclose that the target molecule must be in excess over the

standard ligand, and columns 48-49 to disclose the use of relational databases for the results of electrospray mass spectroscopy embodiments of the cited method. The '146 patent does not teach or suggest a method which comprises adjusting the operating performance conditions of the mass spectrometer such that the signal strength of the standard compound bound to the target molecule is from 1% to about 30% of signal strength of unbound target molecule. A person of ordinary skill in the art would not have obtained the claimed method. Indeed, the Office admits as much.

The Office admits that "the '146 patent does not specify particular relative signal strengths libraries limited to compounds of various molecular weight ranges or numbers of rotatable bonds." The Office states that "such optimizations and selections of parameters were well within the abilities of ordinary skill in the art at the time that the invention was made." Applicants disagree. The'146 patent does not disclose the claimed process step of "adjusting the signal strength of the standard ligand to that of the target molecule from 1% to 30%." This process step is not mere "optimization and selection of parameters" as the Office appears to suggest, but is instead a step in the claimed process wherein the standard ligand is employed to make adjustments which are necessary to carry out the subsequent process steps. More specifically, the specification discloses that the process of desolvation (within the desolvation capillary) occurs as follows: "Adjustment of the mass spectrometer operating performance conditions would include adjustment of the source voltage potential across the desolvation capillary and a lens element of the mass spectrometer. This is best monitored by ion abundance of free target molecule." (see specification, for example, page 11, lines 29-33). The '146 patent does not disclose the claimed process steps.

The process of desolvation discussed in the '146 patent (column 45, second paragraph) is subject to constant conditions. The'146 patent addresses a different process wherein mass tags are attached to the RNA (column 45, paragraph 1) in order to facilitate separation and identification of the relevant peaks in the mass spectrum. In contrast, the claimed process does not employ mass tags to separate the relevant peaks. Instead, the claimed process includes the step of adjusting the mass spectrometer desolvation conditions using a standard ligand to provide resolution of a low-strength labile signal.

Claims 30-32 and 34-46 are patentably distinct over claims 10-19 of U.S. Patent No. 6,329,146 B1 (Crooke et al.). For the same reason, double patenting cannot apply. Applicants therefore request that the rejection for obviousness-type double patenting over U.S. Patent No. 6,329,146 B1 be withdrawn.

35 U.S.C. § 102

Claims 30-32 and 34-46 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,329,146 Bl (Crooke et al.; "the '146 patent"). Applicants traverse the rejection.

Applicants' claimed invention is, in part, a method of selecting those members of a group of compounds that can form a non-covalent complex with a target molecule comprising, in part, mixing a standard compound with an excess amount of a target molecule, introducing the mixture into a mass spectrometer, and adjusting the operating performance conditions of said mass spectrometer such that the signal strength of said standard compound bound to said target molecule is from 1% to about 30% of signal strength of unbound target molecule. The '146 patent does not anticipate the claimed invention.

The Office alleges that the method in the '146 patent requires the selection of a mass spectrometer and collecting ion abundance data for a standard ligand-RNA complex as well as a mixture including the standard ligand-RNA complex plus compounds to form a combinatorial mixture. The Office refers to column 48 of the '146 patent to disclose that the target molecule must be in excess over the standard ligand, and columns 48-49 to disclose the use of relational databases for the results of electrospray mass spectroscopy embodiments of the cited method. However, the '146 patent does not teach or suggest a method which comprises adjusting the operating performance conditions of the mass spectrometer such that the signal strength of the standard compound bound to the target molecule is from 1% to about 30% of signal strength of unbound target molecule.

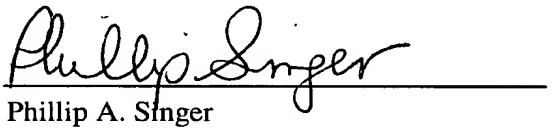
Claims 30-32 and 34-46 are novel in view of U.S. patent 6,329,146 (Crooke et al.). Applicants therefore request that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Conclusion

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 206-332-1380.

Date: July 11, 2003



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